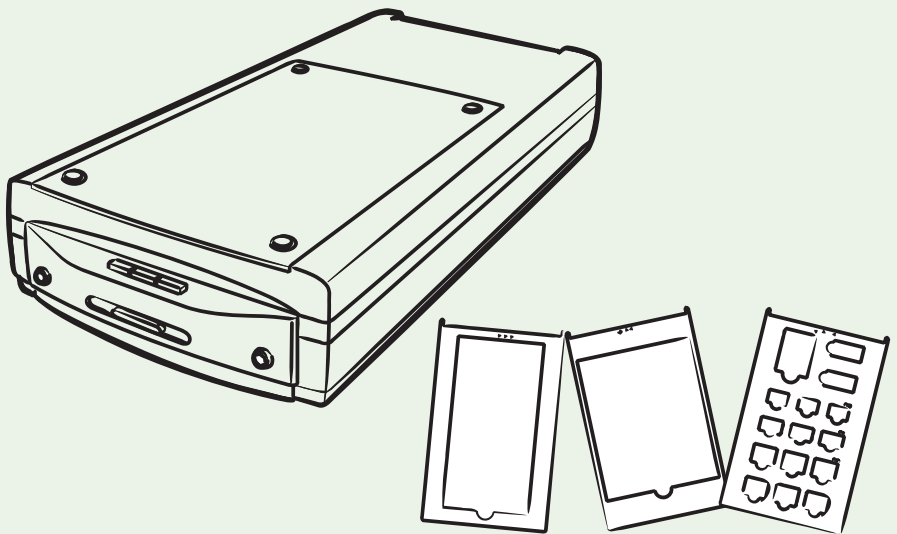


MICROTEK

 *Medi-2200^{plus}*

Dental Film Digitizer User's Manual



www.microtek.com

Preface

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Disclaimer

The contents of this manual have been checked carefully for accuracy, and every effort has been made to ensure that there are no errors. However, Microtek makes no guarantee as to the accuracy of the contents of this document and reserves the right to make changes to the contents without prior warning.

I49-004741 B1
September 2013



Microtek International, Inc.
No. 6, Industry East Road 3,
Science-Based Industrial Park,
Hsinchu, Taiwan



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Microtek International, Inc.
6, Industry East Road 3, Science Based Industrial Park, Hsinchu, Taiwan
Tel: 886-3-5772155, Fax: 886-3-5772598, <http://www.microtek.com>

FCC Compliance Statement

This equipment (Model: MMS-9600TFU2L) has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Note: A shielded Hi-Speed USB interface cable with ferrite core installed on the film digitizer connector end must be used with this equipment.

Caution: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CE 0120 Compliant Device

CE Compliance Statement

This device complies with CE Certification pursuant to

EN 55011:2007 + A2:2007

EN 60601-1-2:2007



WEEE Compliance Statement

Microtek International, Inc. operates under full compliance with the WEEE Directive. Among the requirements of the Directive are the marking of any applicable equipment placed in the EU market with the WEEE symbol, a crossed out wheeled bin as shown at left; demonstration of the implementation of a take-back program; and meeting recycling targets.

ISO Compliance Statement

Comply with the requirements of the international standard ISO 9001:2000 and ISO 13485:2003

Guidance and Manufacturer's Declaration for EMC Directive

For EQUIPMENT or ME SYSTEM that are not LIFT-SUPPORTING

Recommended separation distances between portable and mobile RF communications equipment and the [ME EQUIPMENT or ME SYSTEM]			
The [ME EQUIPMENT or ME SYSTEM] is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the [ME EQUIPMENT or ME SYSTEM] can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the [ME EQUIPMENT or ME SYSTEM] as recommended below, according to the maximum output power of the communications equipment.			
Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = [\frac{3,5}{V_1}] \sqrt{P}$	80 MHz to 800 MHz $d = [\frac{3,5}{E_1}] \sqrt{P}$	800 MHz to 2,5 GHz $d = [\frac{7}{E_1}] \sqrt{P}$
0,01	0.117	0.117	0.233
0,1	0.369	0.369	0.738
1	1.167	1.167	2.333
1	3.690	3.690	7.377
100	11.667	11.667	23.333
For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer. NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies. NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			

The ME declaration- electromagnetic Emission		
The ME system is intended for use in the electromagnetic environment specified below. The customer or the user of the Model 006 should assure that it is used in such an environment.		
Immunity test	IEC 60601 Test Level	Electromagnetic environment- guidance
RF emissions CISPR 11	Group 2	The ME system must emit electromagnetic energy in order to perform its intended function. Nearby electronic equipment may be affected.
RF emissions CISPR 11	Class B	The ME system must be used only in a shielded location with a minimum RF shielding effectiveness and, for each cable that exits the shielded location, a minimum RF filter attenuation of 80 dB from
Harmonic emissions IEC 61000-3-2	Applicable	10 MHz to 20 MHz, 100 dB from 20 MHz to 80 MHz and 80 dB from 80 MHz to 100 MHz. (The minimum at 20 MHz is 100 dB and the minimum at 80 MHz is 80 dB.)
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Applicable	The ME system, when installed in such a shielded location, is suitable for use in all establishments other than domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.

CE Declaration of Conformity (CE DoC)



Microtek International Inc.
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Hsinchu, Taiwan 30077, R.O.C

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Fax: 886-3-5772598

DECLARATION OF CONFORMITY (DoC)

Supplier :

Name: Microtek International Inc.
Address: No.6 Industry East Road 3, Science -Based
Industrial Park, Hsinchu ,Taiwan 30077, R.O.C.

Declares that :

Type of Equipment : Medical Image Digitizer

Model Number : MMS-9600TFU2L

Complies with following :

Standard	Directive
IEC60601-1:2005+CORR.1(2006+CORR.2(2007)	93/42/EEC
EN 60601-1-2:2007	93/42/EEC
Emissions	
EN55011:2007+A2:2007, Group 1, Class B	
EN 61000-3-2: 2006+A2: 2009 Class A	
EN 61000-3-3: 2008	
Immunity	
IEC 61000-4-2 Ed. 2.0: 2008	
IEC 61000-4-3 Ed. 3.2: 2010	
IEC 61000-4-4 Ed. 2.1: 2011	
IEC 61000-4-5 Ed. 2.0: 2005	
IEC 61000-4-6 Ed. 3.0: 2008	
IEC 61000-4-8 Ed. 2.0: 2009	
IEC 61000-4-11 Ed. 2.0: 2004	

Declared by

Derek Tang

(Name, Surname)

R & D center , Vice President

(Position, Title)

Derek Tang

(Legal Signature)

Hsinchu, Taiwan

02/04/2013

(Place/Date)

Safety Precautions

Before using your digitizer, read the following safety guides carefully, which detail the proper operation of the digitizer and its accessories to prevent injuries or damage to users or equipment.

Meanings of Symbol Signs



CAUTION

This indicates hazardous situation which, if not paid attention, could result injury or damage to users or equipment.



WARNING

This indicates hazardous situation which, if not paid attention, could result serious injury or death to users.



Follow operating instructions or Consult instructions for use



STAND-BY



DIRECT CURRENT

Power Supply:



- Only use with adapter MAGIC POWER TECHNOLOGY CO., LTD MPM-X60-15.



- Grounding reliability can only be achieved when the equipment is connected to an equivalent receptacle marked "Hospital Only" or "Hospital Grade".



- Do not modify this equipment without authorization of the manufacturer.



- To avoid risk of electric shock, this equipment must only be connected to a supply mains with protective earth.



- This adapter MAGIC POWER TECHNOLOGY CO., LTD MPM-X60-15 is a forming part of the medical device.



- Accessory equipment connected to the analog and digital interfaces must be in compliance with the respective nationally harmonized IEC standards (i.e. IEC 60950 for data processing equipment, IEC 60065 for video equipment, IEC 61010-1 for laboratory equipment, and IEC 60601-1 for medical equipment.) Furthermore all configurations shall comply with the system standard IEC 60601-1-1. Anyone who connects additional equipment to the signal input part or signal output part is configuring a medical system, and is therefore, responsible that the system complies with the requirements of the system standard IEC 60601-1-1. The unit is for exclusive interconnection with IEC 60601-1 certified equipment in the patient environment and IEC 60XXX certified equipment out-side of the patient environment. If in doubt, consult the technical services department or your local representative.



- Users must not allow SIP/SOPs and the patient to come into contact at the same time.



- Ensure to turn off the power of each device before connecting or disconnecting the cables.



- Insert the plug completely into the outlet, as a loose connection may cause arcing and result in fire.



- Ensure to hold the plug or connector to disconnect the cable; otherwise, if you pull the cable only, it may damage the core wire and result in fire or electric shock.



- Place and route the power supply cord such that it is not likely to be walked on or pinched by items placed upon or against them, paying particular attention to the cord near the power plugs, convenience receptacles, and at the point where it exits from the outlet.



- When the digitizer is left unattended and unused for long periods of time, unplug it from the wall outlet.

Moving and Storing the Film Digitizer:



- Always ensure that the digitizer is stored properly before shipping or moving it. Quick stops, excessive force, and uneven surfaces may cause the product to overturn when moving.



- Do not hit or drop the digitizer. The digitizer may be damaged if it receives a strong jolt, which may result in fire or electric shock if the digitizer is used without being repaired.



- Do not place the digitizer on any slippery, slanted, or unstable surface. The product may slide or fall, causing serious injury to people as well as serious damage to the product.



- Do not use the digitizer near water. Never spill liquid of any kinds on the product, or it may result in electric shock or other hazards.



- This digitizer should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.



- Do not store the digitizer in which it may be exposed to direct sunlight.

Using the Digitizer



- Before using the digitizer, make sure the area of the glass surface is clear from obstacles.



- The digitizer is only designed and used for digitizing mammography films or reflective materials. Do not attempt to use it for other purposes.

Maintenance and Service:



- When the digitizer is going to be cleaned, ensure to turn off the power of each device and unplug the power cable from the AC outlet.



- When you need a repair service, unplug the digitizer from the power outlet and consult qualified service personnel.



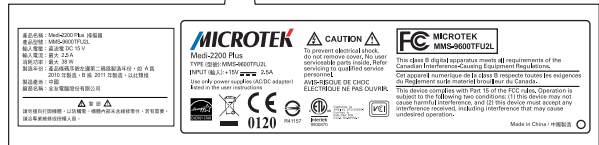
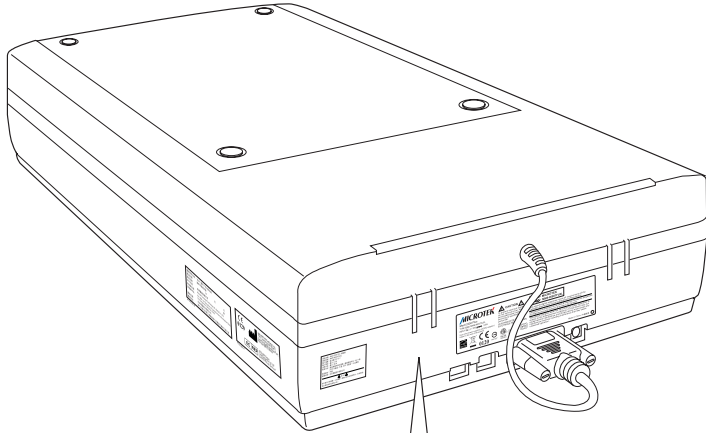
- When replacement parts are required, use replacement parts that are specified by the manufacturer or have the same characteristics as the original parts.



- For safety reasons, ensure to inspect the device before using it. In addition, carrying out a regular inspection at least once a year.

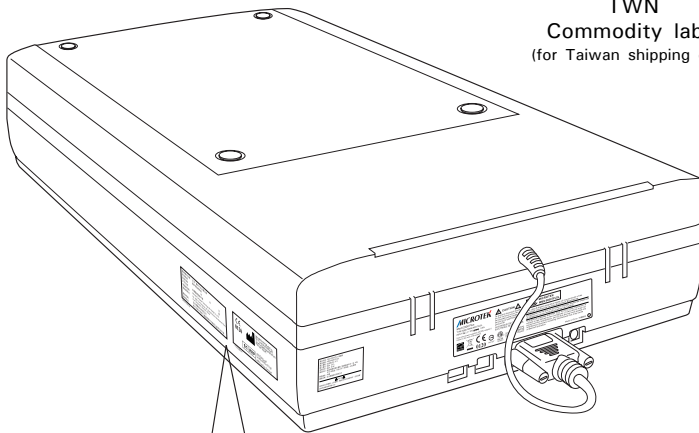
Labels and Markings

On The Device



TWN
Commodity label
(for Taiwan shipping only)

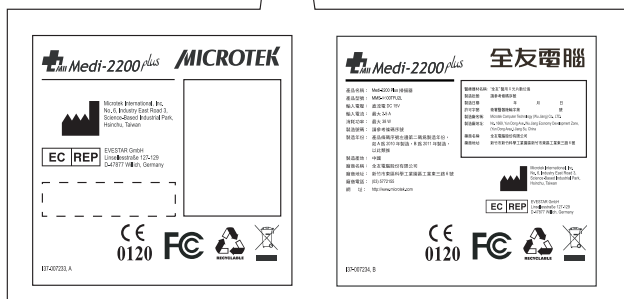
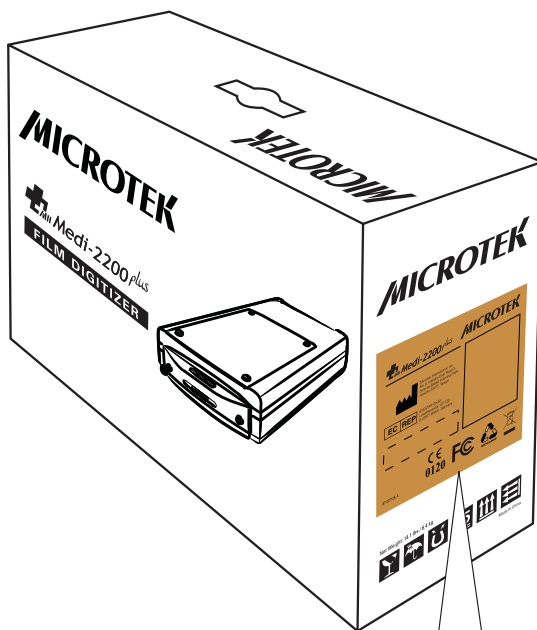
Power label



TFDA label
(for Taiwan shipping only)

CE 0120 label

On The Package Carton



CE 0120 label
(for EU/US/AP shipping)

TFDA label
(for Taiwan shipping)



Fragile; handle with care



Store 15 layers of boxes in one pallet



Keep in a dry place



The storage direction of the top of the box



Keep away from magnets



The storage direction of the top of the machine

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Knowing about Your Film Digitizer

The Medi-2200 Plus is a dental film digitizer, which is specifically designed for the use of the intraoral and extraoral dental films scanning. With the use of exclusive dental film holders and the Smart-Scan function together, the Medi-2200 Plus can automatically perform image auto-cropping and multiple dental films scanning, easily transferring dental films into digital format in short periods of time. The digitized images are intended for the use in primary, secondary and over reading applications; thus, it is specifically designed for the trained medical professionals or staffs.

The Medi-2200 Plus can capture details in bright and dark areas of dental X-ray films and provide the medical professionals a convenient method to digitize the dental X-ray films for the electric data storage. Additionally, the Medi-2200 Plus features the scanning capabilities of reflectives, such as photographs, documents or prints as well.

Features of the Medi-2200 Plus

The Medi-2200 Plus comes with several important features, including the following:

- **Energy-saving LED light source** — Adopting LEDs as the light source, when the digitizer is detected by the system, there are no requirements for any warm-up time before carrying out the scan, which boots your productivity and reduces energy costs amazingly. With its stable performance, the image quality will remain consistent even after used for a certain period of time.
- **Smart-Scan** — The Smart-Scan function provides you an intelligent method for scanning X-ray films. With this function applied, the digitizer can detect the film holder with the loaded films, auto-crop the scan frames, perform scanning in a single pass for multiple films at one time, and save the scanned images into your selected folder or send them to your selected application. By using the Smart-Scan button on either the software control panel or the Medi-2200 Plus unit, the busy medical professionals or staffs can save time to convert X-ray films into digital files effortlessly.
- **One-pass Scan for Multiple Jobs** — This feature allows the digitizer to perform scanning in a single pass for all the selected scan jobs.
- **8.5"x14" scan bed** — The flatbed of the Medi-2200 Plus lets you easily digitize various sizes of dental X-ray films up to 8"x12" and reflectives up to 8.5" x 13.5", which offers more flexibility for storing old X-ray films or records.
- **Clinically Proven Image Quality** — With a high resolution of 4800 dpi, the 16-bit grayscale, and a high dynamic range of 4.0 maximum optical density, the Medi-2200 Plus is able to capture a wide range of gray tones, providing excellent details when digitizing dental images.

- **Exclusive Dental Film Holders** — These specially designed dental film holders are designed to hold a wide range of dental X-ray films in place. By loading the dental film holder on the scan bed before scanning films, you can ensure perfect alignment of your dental images and achieve consistent scans. There are three kinds of dental film holders come with your digitizer package, which accommodate five sizes of intraoral and extraoral dental films, such as intraoral Size 0 through 4, panoramic and cephalometric films. With the use of exclusive dental film holders, medical professionals can scan multiple intraoral dental films at a time, making operations more convenient and efficient.
- **Microtek ScanWizard Medi software** — The friendly user interface of ScanWizard Medi stores X-ray images in a computer readable format, offering an easy and quick access and management.
- **Easy to operate, clean and maintain** — The Medi-2200 Plus requires virtually no routine maintenance and no daily cleaning, which is ideal for busy radiology departments.

System Requirements

In order to use your Medi-2200 Plus, your computer must satisfy the following system requirements:

- CD-ROM drive (for installing software)
- Color display with 24-bit color output capability
- 512 MB RAM or above
- Pentium IV PC or higher with Hi-Speed USB (USB 2.0)
- Microsoft Windows XP, Vista, Windows 7 and 8

Unpacking Your Film Digitizer

Looking for Damage

While unpacking your digitizer, inspect the shipping carton for any signs of mishandling or damage. The digitizer's packing carton and padding material have been carefully chosen to prevent damage to the unit in shipping and can withstand a reasonable amount of pressure.

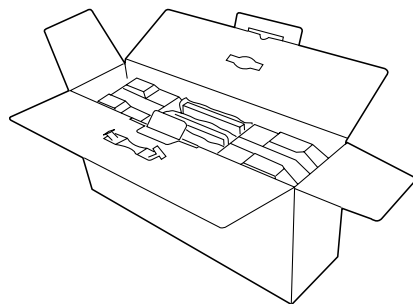
After unpacking your digitizer package, refer to the later section to ensure that you received all of the parts necessary for digitizer setup. If there are any damaged or missing parts, notify the shipper immediately or contact customer service.

NOTE: Save the carton and all packing materials. If you need to ship the digitizer later, it is recommended that you **should** repack it using the original wire ties, plastic bags, foam supports and cartons, which protects your digitizer from unnecessary damage. Refer to the later section "How to Repack Your Film Digitizer for Shipping" for the detail.

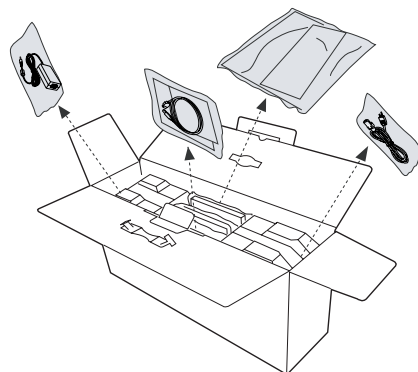
Unpacking Package Contents

After unpacking the shipping carton, follow the steps shown below to take out your digitizer and other accessory components.

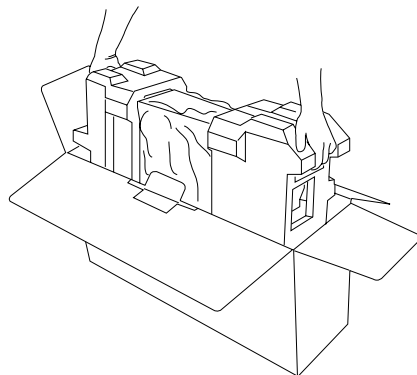
1. Ensure that you put your shipping carton toward the right direction. Then, open the top cover.



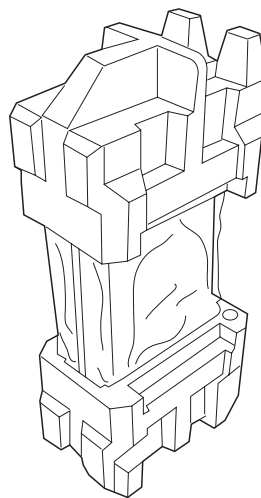
2. Take out the bags containing the film templates and accessory components from the sides of the carton.



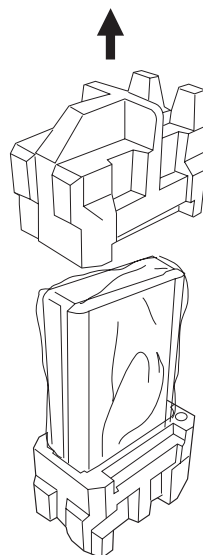
3. With both hands, hold and lift up two sides of the foam supports firmly. Before putting down the package on a steady surface, do not go off either of hands from holding the foam supports.



4. Turn over the foam supports and make them stand vertically.



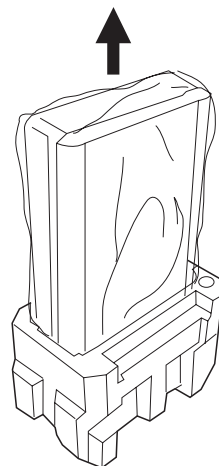
5. Lift up the upper foam support.



6. Then, pull out the digitizer from the bottom foam support.

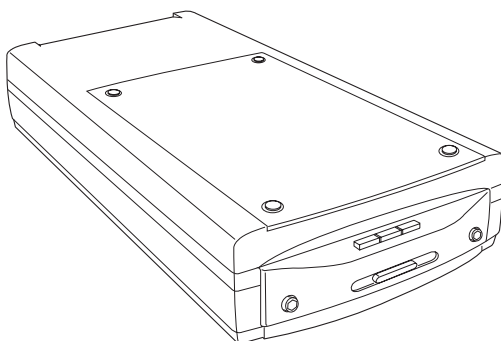
Finally, remove the digitizer from the wrapped plastic bags and place them on a flat and stable surface where there is enough space for positioning the components.

Once the digitizer has been placed in a suitable location and is ready to be connected to the computer, you are ready to step forward to the installation of the necessary software and hardware for the digitizer.

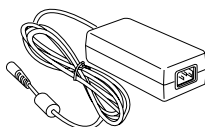


Package Contents

After you have unpacked your digitizer package, please check for the major components listed below.



Medi-2200 Plus film digitizer
(I41-015575)



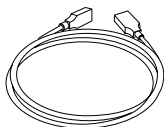
Power adapter
(PN: 545-00-780400)



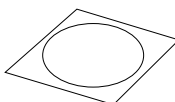
Power cord
(PN/EU: 121-46-260003)
(PN/US: 121-46-260000)
(PN/TWN: 121-46-260001)



Film Alignment ruler
(PN: 215-00-780108)



Hi-Speed USB cable
(PN: 121-44-150504)



Software CD
(I41-015794)

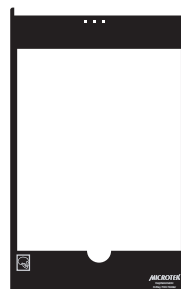
(I41-014879)



Intraoral
X-Ray Film Holder



Panoramic
X-Ray Film Holder

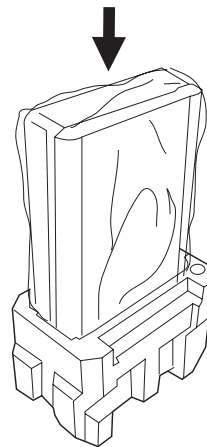


Cephalometric
X-Ray Film Holder

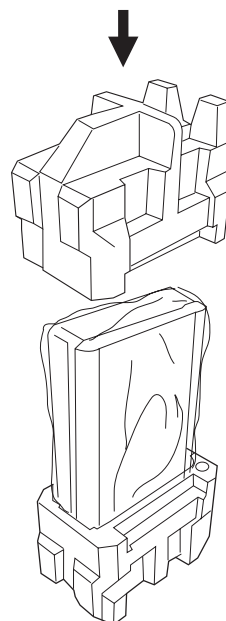
How to Repack Your Film Digitizer for Shipping

To ship back your Medi-2200 Plus for repairing, maintenance services, or other reasons, in order to not damage your Medi-2200 Plus, it is strongly recommended that using the original carton and other packing materials. Follow the steps below to repack your Medi-2200 Plus correctly.

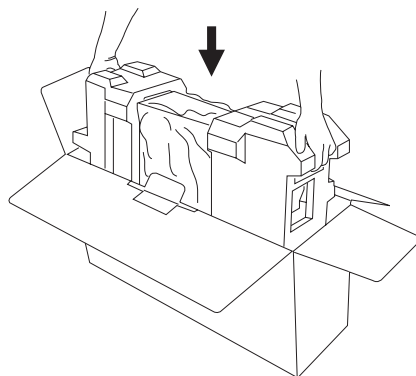
1. Wrap the digitizer with the plastic bag, and then insert it into one foam support.



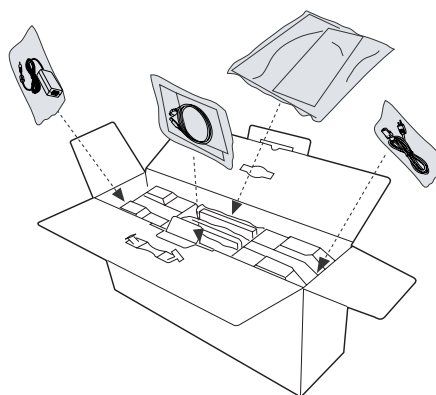
2. Cover down the other foam support on the top of the digitizer.



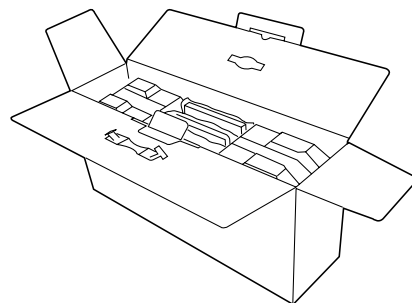
3. With both hands, hold the two sides of foam supports firmly and then insert them into the shipping carton.



4. Put the bags containing the film templates and accessory components into the sides of the carton.

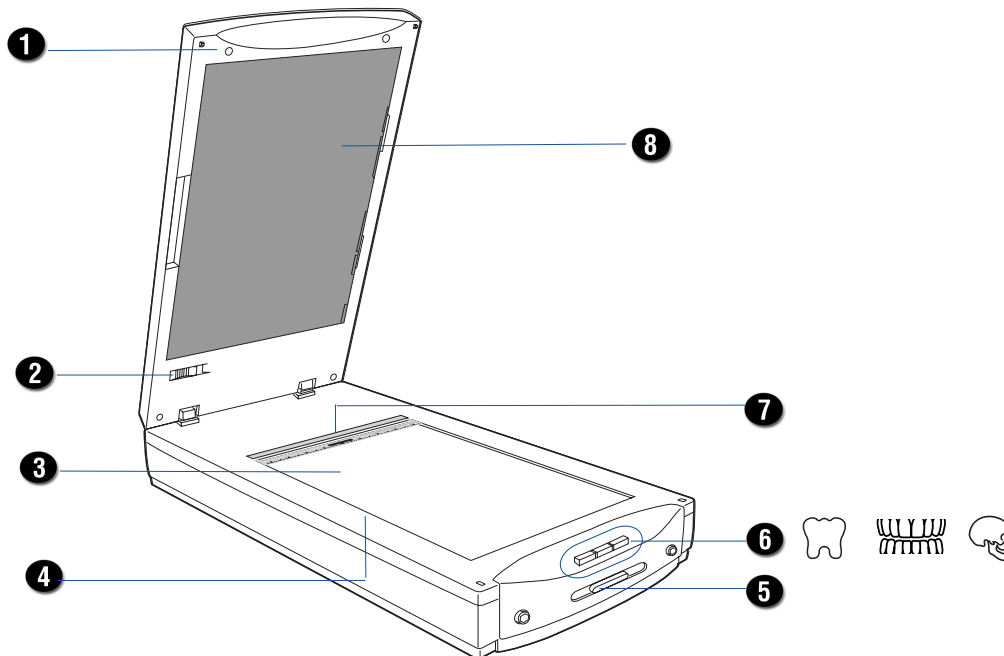


5. Close the top cover of the shipping carton and seal it with tape.



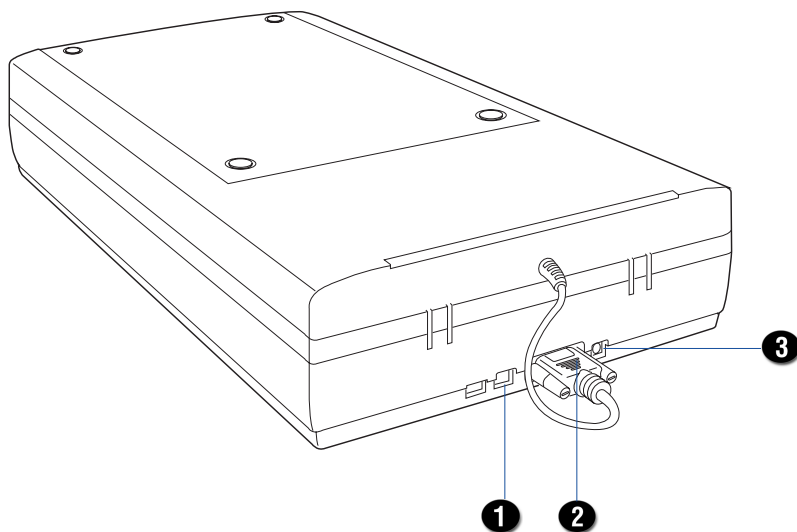
Taking a Closer Look

Front/Open View



No.	Names of Parts	Functions of Parts
1	Digitizer Lid (TMA)	Used to scan dental films.
2	Locking/Unlocking switch	Used to lock and unlock the TMA.
3	Glass Surface	Scan bed for scanning dental films or reflectives.
4	Vertical Ruler	Used to measure the length of the images.
5	Power button	Presses to turn on or off the digitizer.
6	Smart-Scan buttons	Presses to perform the Smart-Scan function. They function same as the Smart-Scan button on the software control panel. These buttons are Intraoral, Panoramic and Cephalometric.
7	Horizontal Ruler	Used to measure the width of the images.
8	Black Mat	Used when scanning of reflective materials.

Rear View



No.	Names of Parts	Functions of Parts
1	Hi-Speed USB Port	Connects the Hi-Speed USB (USB 2.0) cable to the computer.
2	15-pin Accessory port	Connects the TMA to the digitizer.
3	Power Connector	Connects the digitizer to the power adapter.

Installing Your Film Digitizer

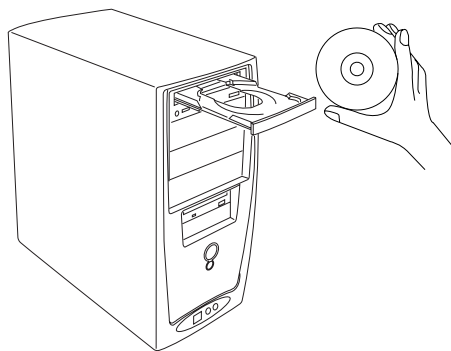
Installing the Software

Important: Do not remove the yellow stickers from your digitizer until you are told to do so. You must install all software before connecting your digitizer.

Always close any open programs and turn off Anti-virus utilities before installing software.

1. Turn on your computer.
2. Place the **Medi-2200 Plus CD-ROM** into your CD-ROM drive.
3. Follow the on-screen instructions to install the driver and software.

NOTE: If the Microtek Software Installer screen does not come up automatically, double-click the following in succession: "My Computer"; the CD-ROM icon; then cdsetup.exe to start the installer program.



4. To install the software on the **Medi-2200 Plus CD**, click each software program in the order that it appears on the screen to install, and follow the on-screen instructions.
5. Click **EXIT** on the Microtek Software Installer screen when all the software has been installed.
6. Restart your computer.

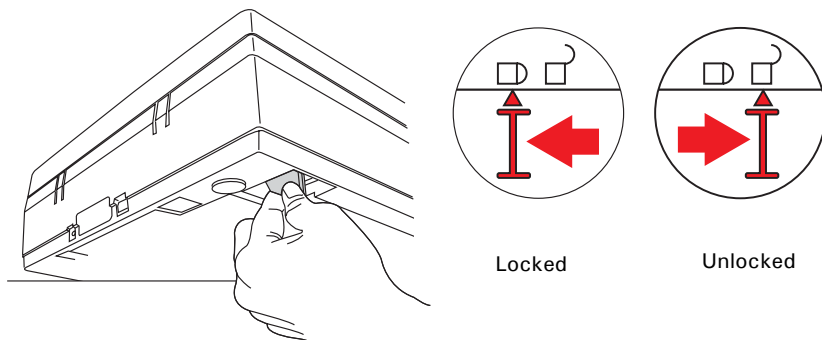
Drivers & Software Upgrades

After you finish the installation of software, if you found that the installed drivers and software cannot run your product or your computer system properly later, please go to the Microtek **Download Service** site at ww7.microtek.com.tw/service.php to download and install any updates you may require.

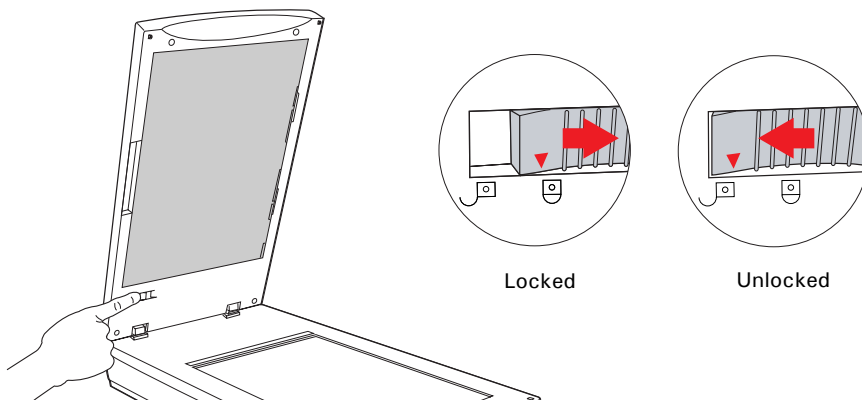
For additional information about Microtek products, please visit our website at www.microtek.com.

Unlocking the Digitizer

1. Remove the yellow "Unlock" stickers from your digitizer.
2. With the digitizer power off, tilt the digitizer and locate the locking switch at the bottom left corner of the digitizer. Do not turn the digitizer upside down when attempting to unlock, as this may damage the digitizer's mechanism.
3. Push the locking switch to the position as indicated in the graphic, with the icon on the lock showing as "unlocked".



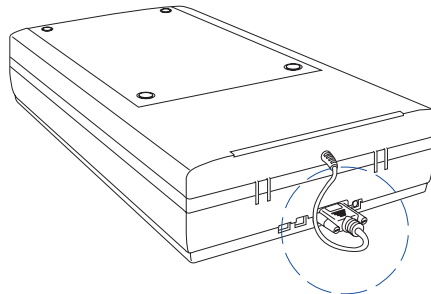
4. Raise the digitizer lid (TMA), and look for the locking switch at the base of the TMA.
5. Push the locking switch to the position as indicated in the graphic, with the icon on the lock showing as "unlocked".



NOTE: To lock the digitizer and the TMA (for shipping and other purposes), turn the locking switch to the "Locked" position. When locking the digitizer, do not turn the digitizer upside down when locking the digitizer back.

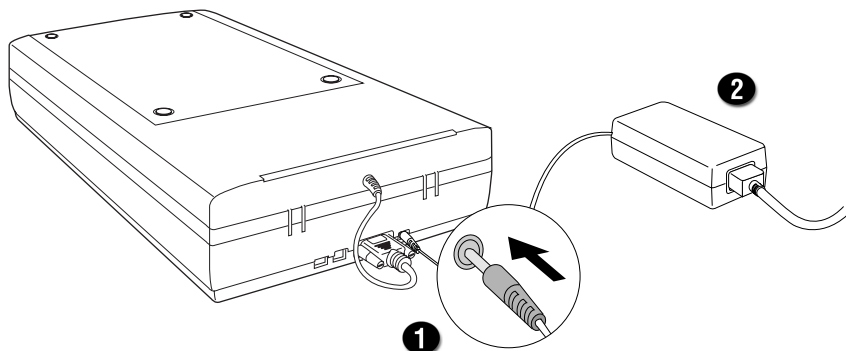
Connecting the Digitizer

Before connecting the Medi-2200 Plus with your computer, make sure that the digitizer lid (TMA) has been properly installed, with its connector securely connected to the scanner's 15-pin accessory port. If not, plug the connector of the TMA into the digitizer's 15-pin accessory port.



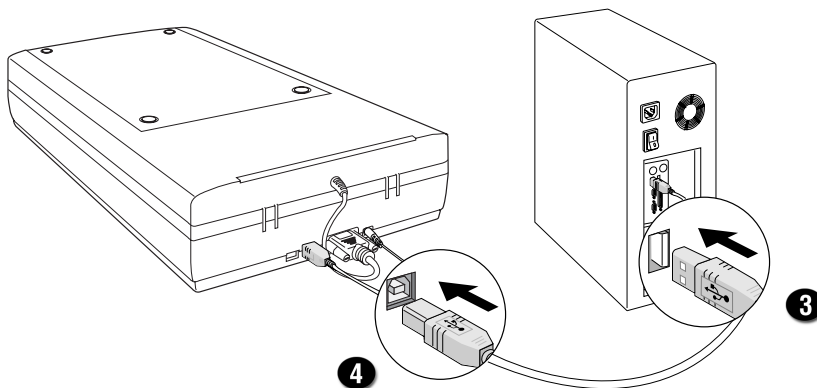
To the Power adapter

1. Connect the power adapter to the back of the digitizer.
2. Plug one end of the power cord into the power adapter, and plug the other end of the power cord into a wall outlet or other power source.



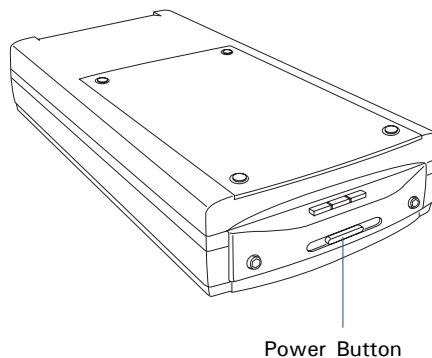
To the Hi-Speed USB (USB 2.0) Cable

3. Connect one end of the Hi-Speed USB cable to your computer.
4. Connect the other end of the Hi-Speed cable to the digitizer's USB port.



5. Press the Power button on the front panel of the digitizer to turn the digitizer on; the LED of the button panel will light up .

The system will detect your digitizer automatically.



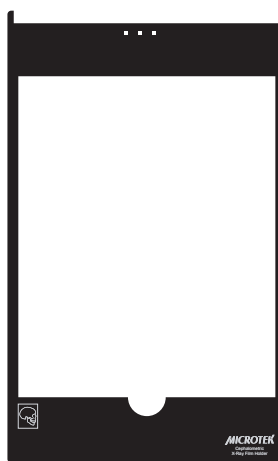
Digitizing Dental Films

To scan dental films, use the film holders included with your digitizer package, and match them with the correct types of film to be scanned. There are three types of dental film holders – Panoramic X-Ray Film Holder, Cephalometric X-Ray Film Holder, and Intraoral X-Ray Film Holder. During scanning, the use of film holders ensures the precise alignment of film, which yields consistent scans and aids the correct performance of the automatic cropping. The use of the individual dental film holder is explained in the succeeding pages of the manual.

Panoramic X-Ray Film Holder	Used to hold two standard panoramic dental film, supporting sizes – 6" x 12" (15 cm x 30 cm) and 5" x 12" (12 cm x 30 cm).
Cephalometric X-Ray Film Holder	Used to hold cephalometric dental film, supporting size 8" x 10" (20.3 cm x 25.4 cm).
Intraoral X-Ray Film Holder	Used to hold five basic intraoral dental film sizes, Size 0, 1, 2, 3, and 4.



For panoramic films



For cephalometric films



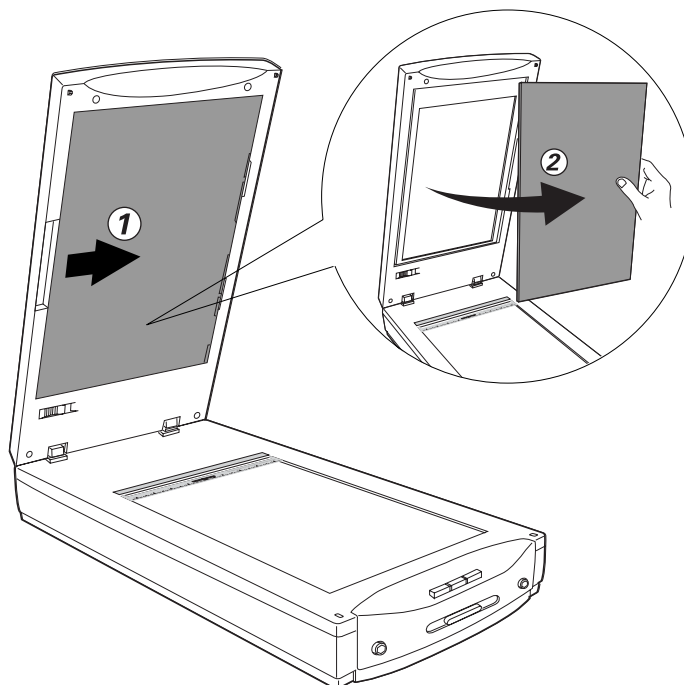
For intraoral films

Removing the Black Mat

The Medi-2200 Plus is come with a Black Mat put on the digitizer lid when shipping. This Black Mat is designed to work with scanning of reflective materials such as photographs, documents or prints as well. It is not designed to work with scanning of X-ray films. During scanning X-ray films, the Black Mat should be removed to reveal the light source in the digitizer for X-ray films.

To remove the Black Mat:

Raise the digitizer lid (TMA) and push the Black Mat to the side (shown in diagram 1) to remove from the digitizer lid (shown in diagram 2).

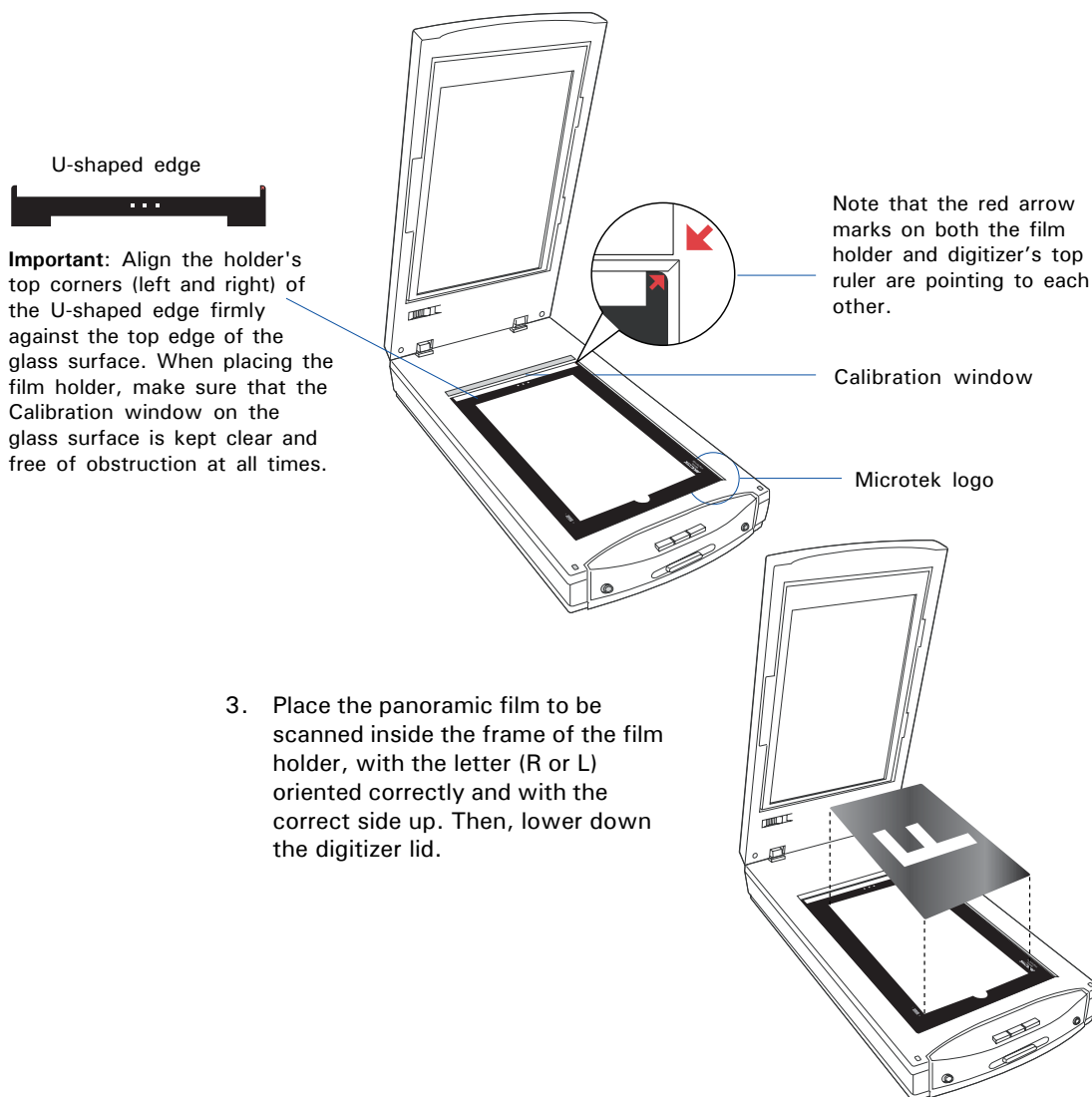


Positioning Dental Films

A. Using the Panoramic X-Ray Film Holder

To scan a panoramic film, use the Panoramic X-Ray Film Holder, which can hold a single piece of panoramic film.

1. Make sure that the Black Mat is removed from the digitizer lid.
2. Place the Panoramic X-Ray Film Holder on the digitizer glass surface. Make sure to orient the film holder with the "Microtek" logo facing up.

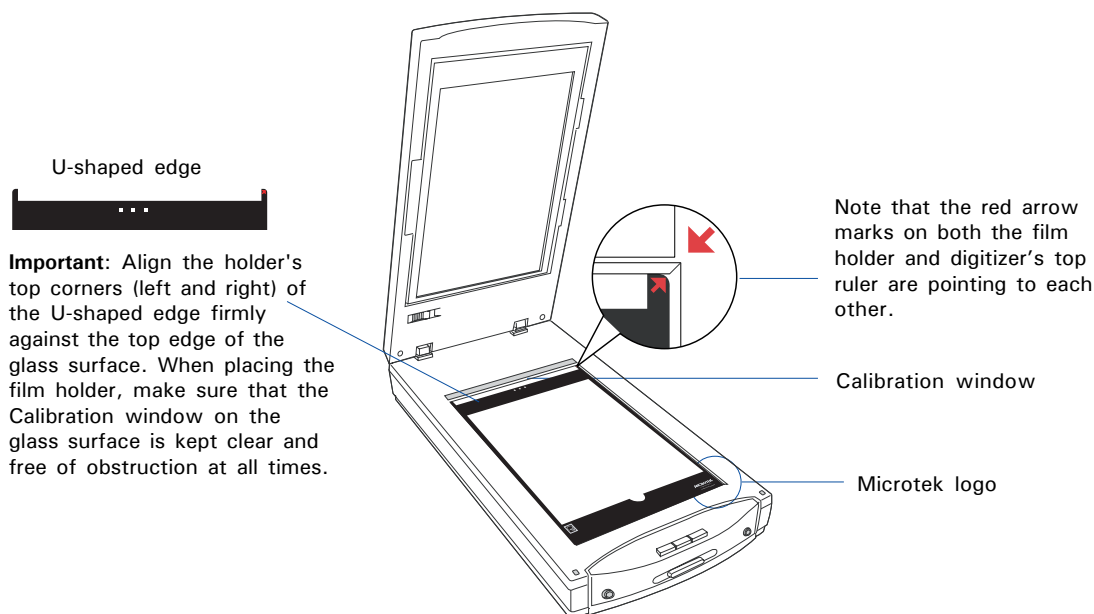


3. Place the panoramic film to be scanned inside the frame of the film holder, with the letter (R or L) oriented correctly and with the correct side up. Then, lower down the digitizer lid.

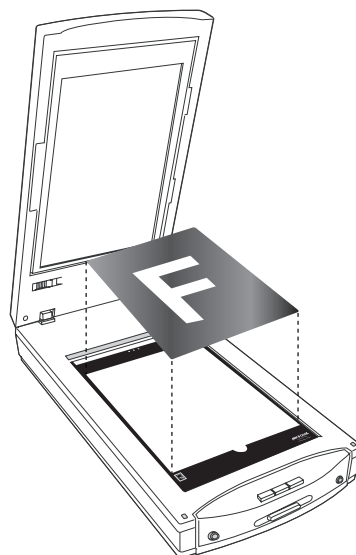
B. Using the Cephalometric X-Ray Film Holder

To scan a cephalometric film, use the Cephalometric X-Ray Film Holder, which can hold a single piece of cephalometric film.

1. Make sure that the Black Mat is removed from the digitizer lid.
2. Place the Cephalometric X-Ray Film Holder on the digitizer glass surface. Make sure to orient the film holder with the "Microtek" logo facing up.



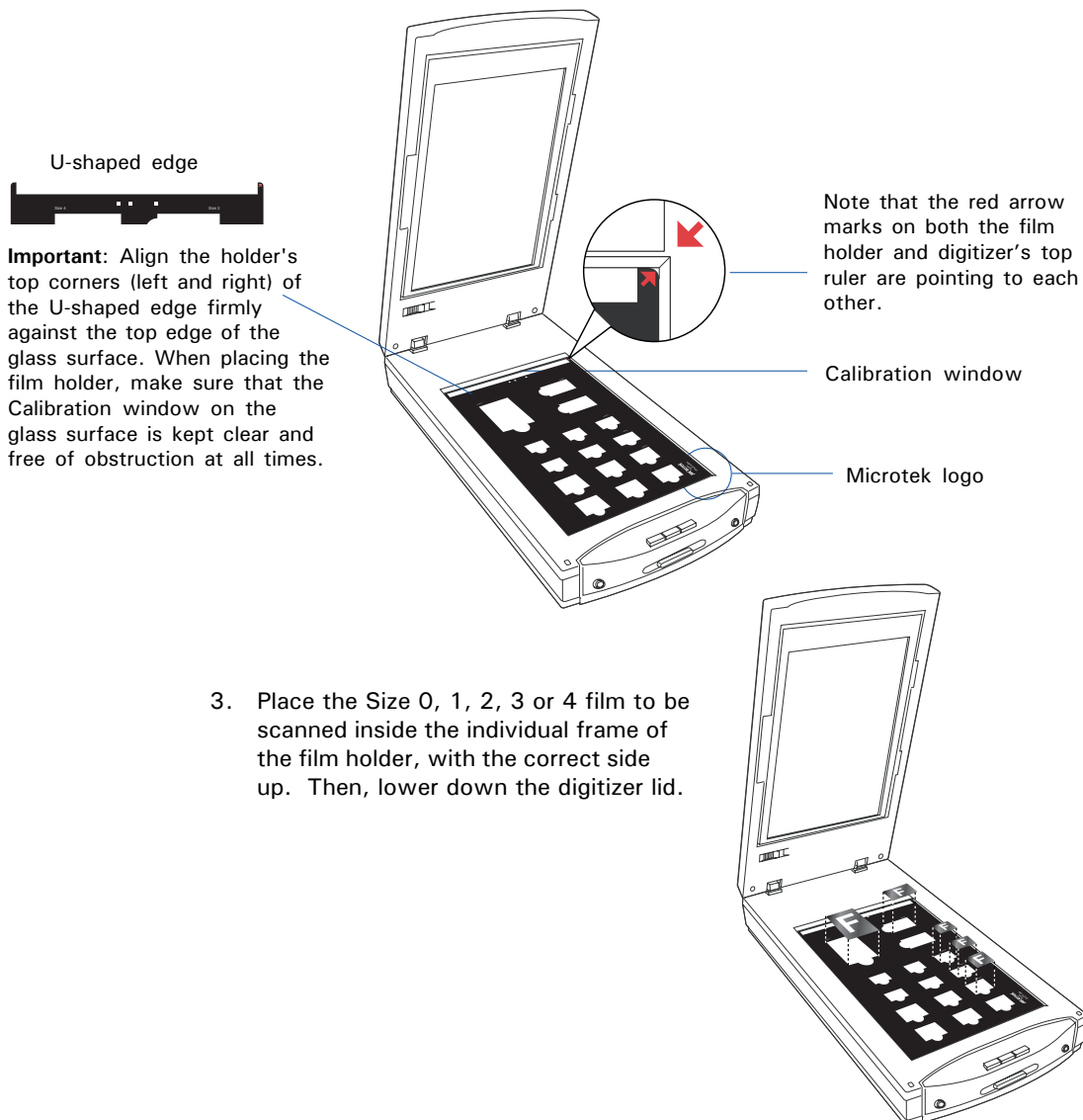
3. Place the cephalometric film to be scanned inside the frame of the film holder, with the human head facing to the right of the digitizer. Then, lower down the digitizer lid.



C. Using the Intraoral X-Ray Film Holder




To scan intraoral dental films, use the Intraoral X-Ray Film Holder, which can hold up to three Size 0, three Size 1, six Size 2, two Size 3 and one Size 4 films at a time.

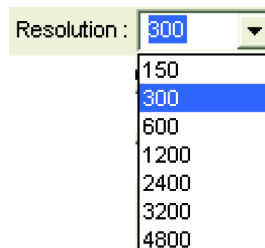
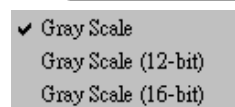
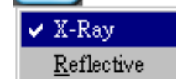
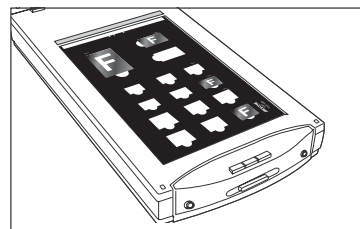
1. Make sure that the Black Mat is removed from the digitizer lid.
2. Place the Intraoral X-Ray Film Holder on the digitizer glass surface. Make sure to orient the film holder with the "Microtek" logo facing up.



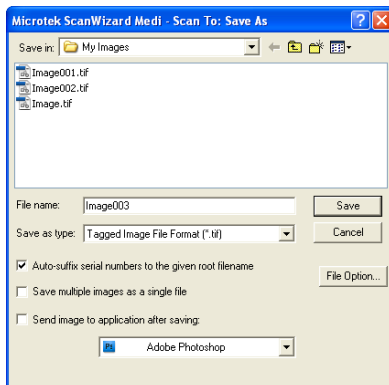
Scanning Dental Films

ScanWizard Medi is a scanning software designed by Microtek for X-ray films or reflectives scanning used for a medical purpose. Its user-friendly interface enables you to easily start the scanning process and finish all the scan jobs. Refer to the ScanWizard Medi software manual for more details.

1. Follow the procedures for “Positioning Dental Films” to place the film holder and dental films on the digitizer glass surface.
2. Launch ScanWizard Medi (either as a stand-alone by clicking the program icon, or by using the “File-Import” or “Scan” command from an application program).
3. Make sure you are in the “X-Ray” scanning mode. If not, click the “Scan Material” icon in the Preview window; then, select “X-Ray” as your scanning mode.
4. Select your image output type in the Type drop-down menu.
 - Select *Gray Scale* to scan the image in 8-bit grayscale.
 - Select *Gray Scale (12-bit)* to scan the image in 12-bit grayscale.
 - Select *Gray Scale (16-bit)* to scan the image in 16-bit grayscale.
5. Select your desired image output resolution in the Resolution drop-down menu. The default setting is 300 dpi for the X-Ray scanning mode.
6. If necessary, click the Window Expansion **button** to reveal the image correction tools to adjust image quality.
7. Click the *Smart-Scan* button on the control panel or the buttons on the Medi-2200 Plus unit to start scanning.
 - Press the  button on the digitizer if using the Intraoral X-Ray Film Holder.
 - Press the  button on the digitizer if using the Panoramic X-Ray Film Holder.
 - Press the  button on the digitizer if using the Cephalometric X-Ray Film Holder.



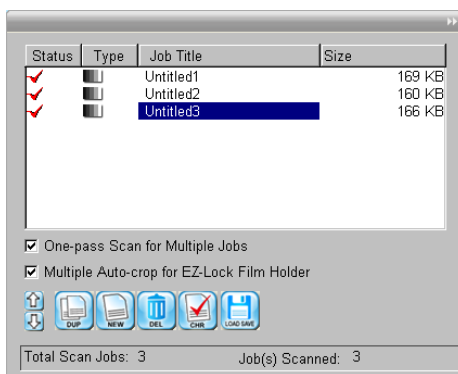
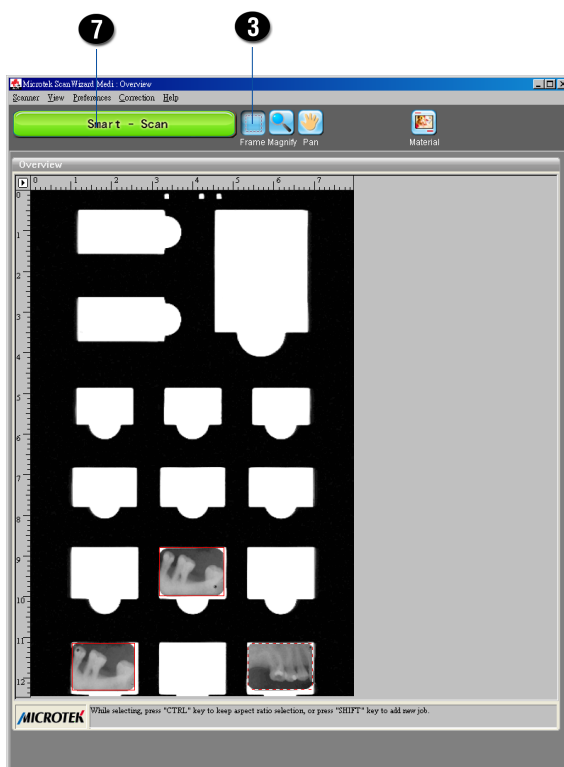
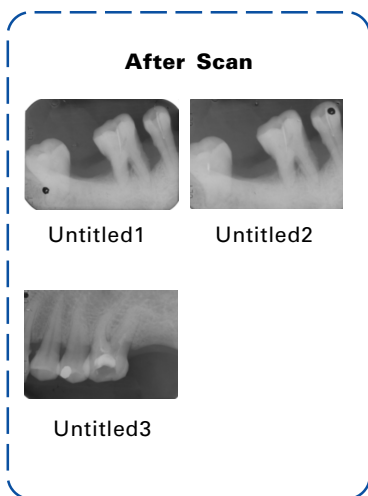
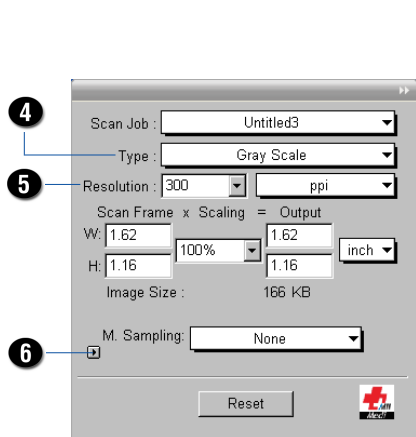
- If ScanWizard Medi is launched as a stand-alone program, a window “Scan To: Save As” dialog box will appear. Click the Save button; then, the scanned image can be saved into your selected folder or sent to your selected application.



To view the scanned image, double click the “MSmart Images” icon on your desktop (default folder assigned by the software), or retrieve it from your assigned folder.



- If ScanWizard Medi is launched as a Plug-In from an image-editing program, the scanned image is delivered after the scan to your application, where the image can be saved, viewed, or printed further.

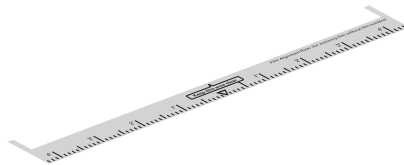


Digitizing Dental Films without Film Holder

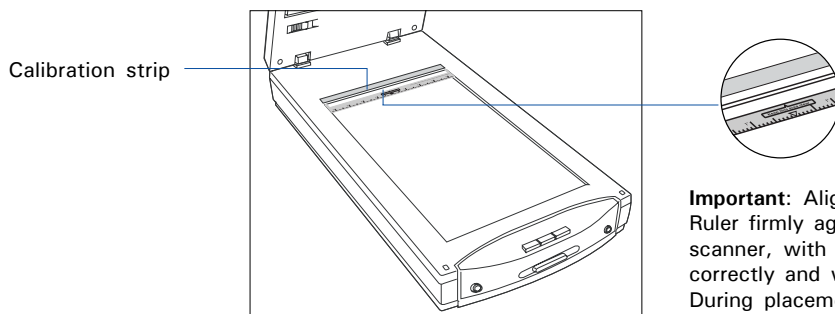
If the supplied film holder is not going to be used, Medi-2200 Plus also allows you to scan the dental films without any film holder on the scan bed.

Using the Film Alignment Ruler

To scan non-standard-size film such as 8" x 10" film, use the Film Alignment Ruler, which allows you to scan film up to 8" x 12" in size.

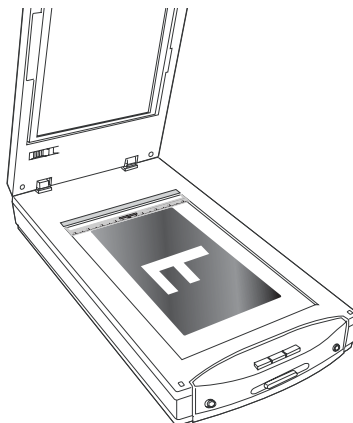


1. Place the Film Alignment Ruler towards the back of the scanner on the scanner glass surface.



Important: Align the Film Alignment Ruler firmly against the top ruler of the scanner, with the ruler oriented correctly and with the correct side up. During placement of the Ruler, make sure that the **calibration strip** on the Ruler is kept clear and free of obstruction at all times.

2. Place the film (non-standard size film) to be scanned on the scanner glass surface, and center the film along the Film Alignment Ruler on the scanner.

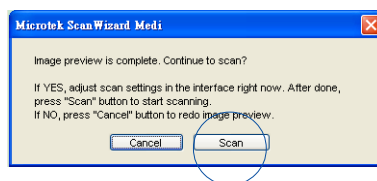


Scanning Dental Films with Film Alignment Ruler

Follow the steps below to perform your scan without using supplied holders.

1. Follow the procedures for "Using the Film Alignment Ruler" to position the film to be scanned on the digitizer correctly.
2. Follow the procedures (steps 2 through 6) for "Scanning Dental Films" for Digitizing Dental Films with Film Holder to launch the ScanWizard Medi software, and to specify your scanning requirements.
3. Click the *Smart-Scan* button on the control panel or any buttons on the Medi-2200 Plus unit to start scanning.

If you do not use a supplied holder, then start the scanning process, when the overview is finished, ScanWizard Medi will prompt you a window to ask if you want to continue the scanning.



You can select the **Scan Frame** tool from the Toolbar in the Preview window, and directly resize the scan frame (floating dotted line) around the image by dragging on the edge of corner of the scan frame.

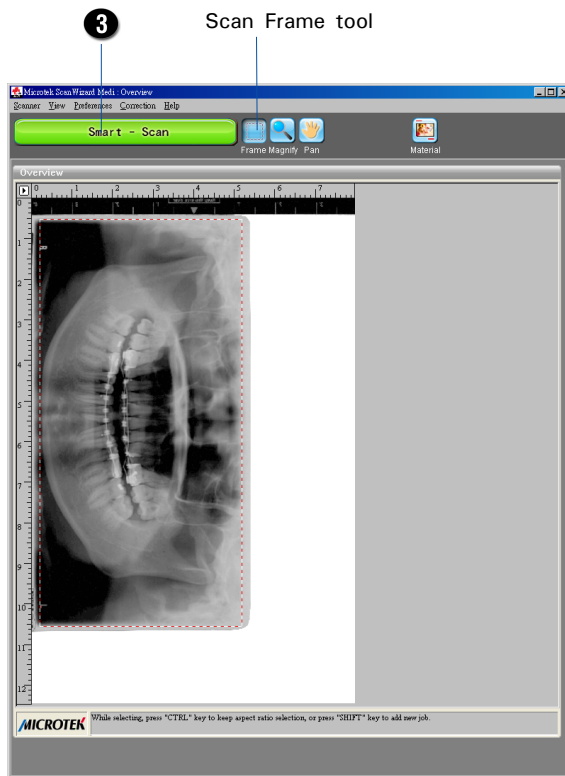
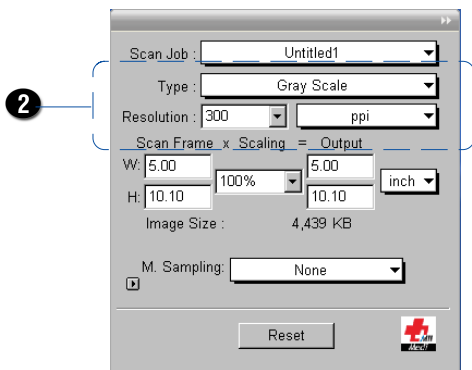
When done, click the *Scan* button to continue your scanning.

- If ScanWizard Medi is launched as a stand-alone program, a window "Scan To: Save As" dialog box will appear. Click the Save button; then, the scanned image can be saved into your selected folder, or sent to your selected application.

To view the scanned image, double click the "MSmart Images" icon on your desktop (default folder assigned by the software), or retrieve it from your assigned folder.



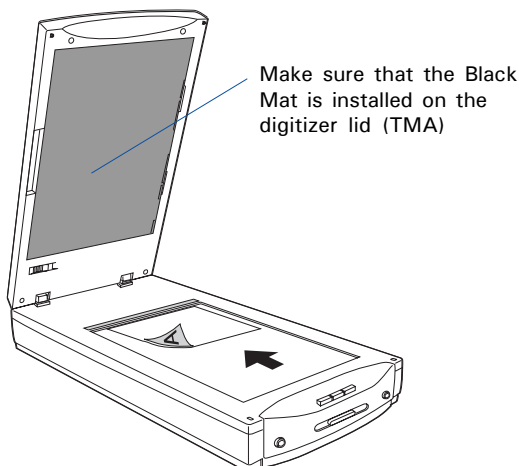
- If ScanWizard Medi is launched as a Plug-In from an image-editing program, the scanned image is delivered after the scan to your application, where the image can be saved, viewed, or printed further.



Digitizing Reflective Originals

To scan reflective originals, such as photographs, documents or prints, you can still use the Medi-2200 Plus with built-in transparency adapter.

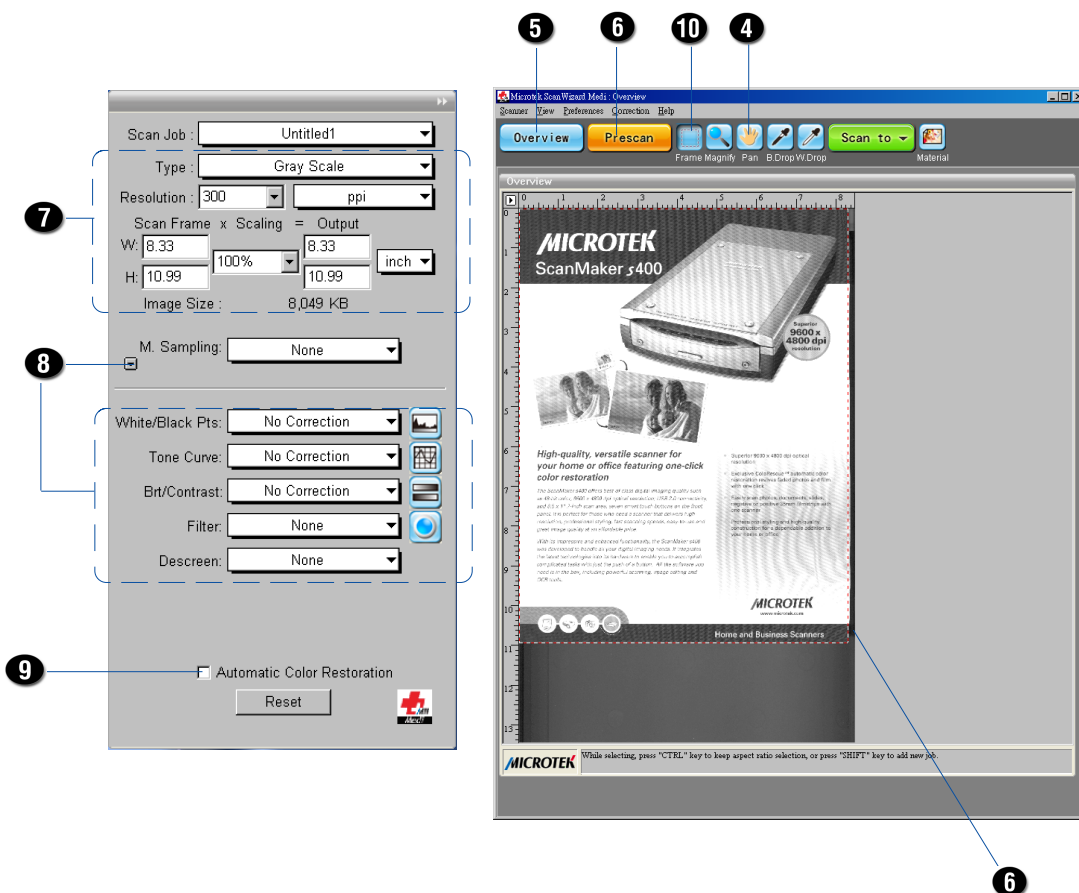
1. Raise the digitizer lid, and place the reflective original to be scanned facing down on the digitizer glass surface.
2. Place the top end of the document towards the back of the digitizer, then lower the digitizer lid on the glass surface.



3. Launch ScanWizard Medi (either as a stand-alone by clicking the program icon, or by using the "File-Import" or "Scan" command from an application program).
4. Make sure you are in the "Reflective" scanning mode. If not, click the "Scan Material" icon in the Preview window; then, select "Reflective" as your scanning mode.
5. Click the *Overview* button to perform a preliminary scan of the image, which will appear in the Preview window.
6. In the Preview window, you can select the **Scan Frame** tool from the Toolbar, and resize the scan frame (floating dotted line) around the image by dragging on the edge or corner of the scan frame to determine the final size of the actual scan.
7. Specify your scanning requirements in the *Settings* window.
 - a) Select a desired image type.
 - b) Select a desired resolution.
 - c) Adjust the scan frame settings if necessary.



8. Adjust image quality if necessary, using the Advanced Image Correction (AIC) tools. Clicking the *Window Expansion* button to reveal the image correction tools.
9. If the colors in your reflective originals (e.g. photos) are faded and need restoring, check the “Automatic Color Restoration” box in the Settings window.
10. Click the *Scan to* or *Scan* button to scan the image.
 - If ScanWizard Medi is launched as a stand-alone program, the scanned image can be saved after the scan to a file, opened in an image-editing program, or sent to a printer.
 - If ScanWizard Medi is launched as a plug-In from an image-editing program, the scanned image is delivered after the scan to your application, where the image can be saved, printed, or modified further.

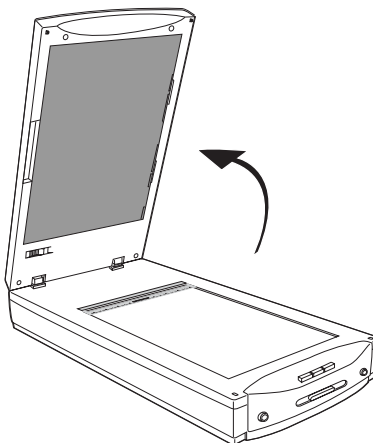


Care and Cleaning

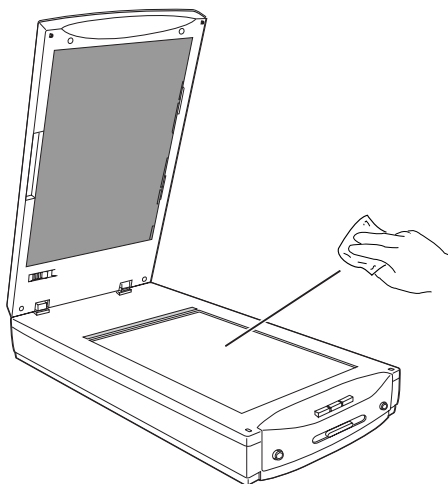
To ensure optimal performance for the Medi-2200 Plus, it is important to clean the glass surface of the digitizer on a regular basis.

Cleaning the Glass Surfaces

1. Lift up the digitizer lid.



2. Use the cleaning cloth come with your package or a soft, non-abrasive and lint-free cloth to gently wipe the glass surface area on the digitizer's scan bed.



NOTE: Do not use any detergents, synthetic cleaning solutions, cleaning naphtha, or other solvents to clean the glass surface directly.

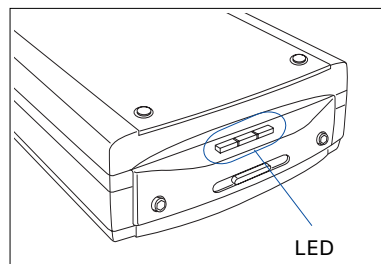
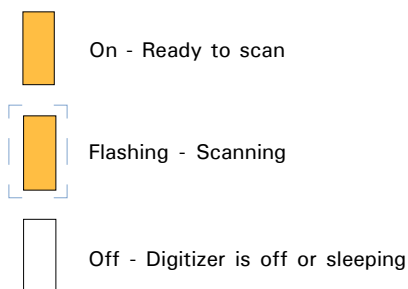
Maintenance

After usage for a period of time, the parts inside your digitizer, such as the light source, may become worn out, and a problem such as insufficient light supply may occur. In this cases, contact your local dealers or wholesales for the maintenance services.

NOTE: Your digitizer need a professional to perform the required service or maintenance. Do not attend to fix or perform the maintenance by yourself, or it may cause dangers to you or the digitizer.

Troubleshooting

The LED on the button panel indicate the status of the digitizer.



If you encounter any problems, check the section below and follow the suggested solution if your problem is listed. You may also want to go over the installation instructions described in the “Installing Your Digitizer” chapter of this manual to make sure that you have followed all procedures properly.

1. No light comes on when the digitizer is turned on.

Make sure your digitizer is connected to your computer and plugged into a power source.

2. The Add/Remove Hardware Wizard appears on your screen.

Click the “Cancel” button and close the ScanWizard Medi.

Disconnect the Hi-Speed USB cable from the back of your computer, and refer to the installation instructions in this manual.

3. When trying to scan, an error message appears on your screen that reads, “Can’t Find Scanners”.

Make sure your digitizer is unlocked (see “Unlocking the Digitizer” section).

Make sure your digitizer is connected to your computer and plugged in to a power source (see “Connecting the Digitizer” section).

Uninstall and reinstall the ScanWizard Medi software.

4. After clicking scan, a blank screen appears.

Make sure your digitizer is unlocked (see “Unlocking the Digitizer” section).

Uninstall and reinstall the ScanWizard Medi software.

5. Having trouble scanning X-ray films.

Make sure the TMA (Transparency Media Adapter) is properly installed, with its connector securely connected to the digitizer’s 15-pin accessory port.

Make sure you place the film holder and film properly on the scan bed. Do not block the calibration window (as indicated in the “Positioning Dental Films” section).

Make sure you are in the "X-Ray" scanning mode. If not, click the "Scan Material" icon in the Preview window; then, select "X-Ray" as your scanning mode.

Uninstall and reinstall the ScanWizard Medi software.

6. Having trouble scanning reflective originals.

Make sure you place the reflective original to be scanned properly on the scan bed.

Make sure you are in the "Reflective" scanning mode. If not, click the "Scan Material" icon in the Preview window; then, select "Reflective" as your scanning mode.

Uninstall and reinstall the ScanWizard Medi software.

Specifications

Type	Desktop flatbed film digitizer		
Image Sensor	CCD (Charge-Coupled Device)		
Lamp Source	LED (Light Emitting Diode)		
Scanning Modes	Grayscale in a single scanning pass		
	Input:		
	16-bit grayscale (Approx. 65,536 shades of gray)		
	8-bit grayscale (Approx. 256 shades of gray)		
	Output:		
	16-bit grayscale (Approx. 65,536 shades of gray)		
	12-bit grayscale (Approx. 4,096 shades of gray)		
	8-bit grayscale (Approx. 256 shades of gray)		
Resolution	Optical: 4800 dpi (H) x 9600 dpi (V)		
Scanning Area	Transparent: 8" x 12" (203 mm x 305 mm) Reflective: 8.5" x 13.5" (216 mm x 343 mm)		
Product Life Cycle	100,000 scans or 5 years		
Interfaces	Hi-Speed USB (USB 2.0)		
Dimensions (L x W x H)	22.6" x 11.7" x 4.6" (576 mm x 297 mm x 118 mm)		
Weight	14.1 lbs (6.4 kg)		
Voltage	AC 100V to 240V, 50-60 Hz (Input) DC 15V, 2.5A (Output)		
Power Consumption	38 W (Max)		
Power Supply	Voltage	Manufacturer	Model No.
	100V to 240V	MAGIC POWER TECHNOLOGY CO., LTD.	MPM-X60-15
Environment	Operating Temperature: 50°F to 95°F (10°C to 35°C) Relative Humidity: 30% to 75% Storage Temperature: -4°F to 140°F (-20°C to 60°C) Relative Humidity: 10% to 85% Altitudes: < = 2,000 m Atmosphere Pressure: 70-101.3 KPa		

Important

Specifications, software bundles, and accessories are subject to change without notice. Not responsible for typographic errors.